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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/801,793	03/16/2004	Ludmila Cherkasova	200401021-1	1926
22879 7590 02/06/2008 HEWLETT PACKARD COMPANY P O BOX 272400, 3404 E. HARMONY ROAD INTELLECTUAL PROPERTY ADMINISTRATION FORT COLLINS, CO 80527-2400			EXAMINER WON, MICHAEL YOUNG	
			ART UNIT 2155	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary

Application No.

10/801,793

Applicant(s)

CHERKASOVA ET AL.

Examiner

Michael Y. Won

Art Unit

2155

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 3/29/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This action is in response to the application filed March 16, 2004.
2. Claims 1-46 have been examined and are pending with this action.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eilam et al. (US 2004/0111509) in view of Huckins (US 5,890,162).

INDEPENDENT:

As per **claim 1**, Eilam teaches a method comprising:

receiving, into a capacity planning system, workload information representing an expected workload of client accesses of files from a site (see page 2, [0021]:

"optimization algorithm consolidating the workload forecast and the contract information" & [0032]: "Traffic and workload are monitored continuously and logged at a storage device");

receiving, into said capacity planning system, at least one service parameter that defines a desired service characteristic to be provided by a server configuration under

the expected workload (see page 2, [0021]: "optimization algorithm consolidating the workload forecast and the contract information" & [0022]: "Multi-Layer Infrastructure Service Level Agreement (MLISLA)"; and

determining, by said capacity planning system, for at least one server configuration, how many servers of said at least one server configuration to be included at said site for supporting the expected workload in compliance with said at least one service parameter (see page 2, [0020]: "allocate servers according to the expected workload as well as the current workload" & [0033]: "A Resource Manager (RM) is responsible for making allocation decisions in real time based on the RAP and the monitored workload").

Eilam does not explicitly teach client accesses of files from a site are streaming media files or that the server is a media server.

Huckins teaches streaming media files and a media server (see col.1, lines 35-39 & lines 43-45).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the system of Eilam in view of Huckins so that client accesses of files from a site are streaming media files or that the server is a media server. One would be motivated to do so because Eilam teaches the present invention is applicable via the Internet (see page 1, [0001]) comprising a Server Farm (see page 1, [0002]). Therefore, one of ordinary skill in the art would agree that multimedia server and streaming multimedia files are accessed via the Internet.

As per **claim 11**, Eilam teaches a method comprising:

receiving, into a capacity planning tool, information about a first server configuration;

receiving, into said capacity planning tool, workload information representing an expected workload of client accesses of files from a site (see page 2, [0021]: “optimization algorithm consolidating the workload forecast and the contract information” & [0032]: “Traffic and workload are monitored continuously and logged at a storage device”);

receiving, into said capacity planning system, at least one performability parameter that defines a desired service characteristic to be provided by a server configuration during non-compliant periods of operation under the expected workload (see page 2, [0021]: “optimization algorithm consolidating the workload forecast and the contract information” & [0022]: “Multi-Layer Infrastructure Service Level Agreement (MLISLA)”); and

said capacity planning tool determining how many servers of said first server configuration to be included at said site for supporting the expected workload in compliance with said at least one performability parameter (see page 2, [0020]: “allocate servers according to the expected workload as well as the current workload” & [0033]: “A Resource Manager (RM) is responsible for making allocation decisions in real time based on the RAP and the monitored workload”).

Eilam does not explicitly teach client accesses of files from a site are streaming media files or that the server is a media server.

Huckins teaches streaming media files and a media server (see col.1, lines 35-39 & lines 43-45).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the system of Eilam in view of Huckins so that client accesses of files from a site are streaming media files or that the server is a media server. One would be motivated to do so because Eilam teaches the present invention is applicable via the Internet (see page 1, [0001]) comprising a Server Farm (see page 1, [0002]). Therefore, one of ordinary skill in the art would agree that multimedia server and streaming multimedia files are accessed via the Internet.

As per **claim 22**, Eilam teaches a method comprising:

receiving, into a capacity planning tool, workload information representing an expected workload of client accesses of files over a period of time T (see page 2, [0021]: "optimization algorithm consolidating the workload forecast and the contract information" & [0032]: "Traffic and workload are monitored continuously and logged at a storage device");

said capacity planning tool determining, for at least one server configuration under evaluation, an amount of overload encountered by said at least one media server configuration during each of a plurality of time intervals (see page 3, [0036]-[0037]: "where t is the time index") of said expected workload (see page 2, [0020]: "allocate servers according to the expected workload as well as the current workload" & [0033]:

"A Resource Manager (RM) is responsible for making allocation decisions in real time based on the RAP and the monitored workload").

Eilam does not explicitly teach client accesses of files from a site are streaming media files or that the server is a media server.

Huckins teaches streaming media files and a media server (see col.1, lines 35-39 & lines 43-45).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the system of Eilam in view of Huckins so that client accesses of files from a site are streaming media files or that the server is a media server. One would be motivated to do so because Eilam teaches the present invention is applicable via the Internet (see page 1, [0001]) comprising a Server Farm (see page 1, [0002]). Therefore, one of ordinary skill in the art would agree that multimedia server and streaming multimedia files are accessed via the Internet.

As per **claim 30**, Eilam teaches a method comprising:
receiving, into a capacity planning tool, workload information identifying an expected workload of client accesses of files from a server over a period of time T (see page 2, [0021]: "optimization algorithm consolidating the workload forecast and the contract information" & [0032]: "Traffic and workload are monitored continuously and logged at a storage device");

determining, by said capacity planning tool, an interval overload profile for a server configuration under evaluation, wherein said interval overload profile specifies an

amount of overload of said server configuration for each of a plurality of time intervals of duration I of said expected workload, where $I < T$ (see page 3, [0035]); and

said capacity planning tool determining based at least in part on the interval overload profile whether said media server configuration under evaluation supports the expected workload in compliance with defined service parameters that define service characteristics desired by a service provider (see page 3, [0036]: "The RM employs a Resource Control Algorithm (RCA) to make allocation decisions in real time according to the RAP and the alerts of the STFM, taking into account also the MLISLAs").

Eilam does not explicitly teach client accesses of files from a site are streaming media files or that the server is a media server.

Huckins teaches streaming media files and a media server (see col.1, lines 35-39 & lines 43-45).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the system of Eilam in view of Huckins so that client accesses of files from a site are streaming media files or that the server is a media server. One would be motivated to do so because Eilam teaches the present invention is applicable via the Internet (see page 1, [0001]) comprising a Server Farm (see page 1, [0002]). Therefore, one of ordinary skill in the art would agree that multimedia server and streaming multimedia files are accessed via the Internet.

As per **claim 36**, Eilam teaches a system comprising:

means for receiving workload information representing an expected workload of client accesses of files from a site over a period of time T (see page 2, [0021]:

“optimization algorithm consolidating the workload forecast and the contract information” & [0032]: “Traffic and workload are monitored continuously and logged at a storage device”); and

means for determining, for at least one server configuration under evaluation, an amount of overload encountered by said at least one server configuration during servicing each of a plurality of time intervals (see page 3, [0036]-[0037]: “where t is the time index”) of said expected workload (see page 2, [0020]: “allocate servers according to the expected workload as well as the current workload” & [0033]: “A Resource Manager (RM) is responsible for making allocation decisions in real time based on the RAP and the monitored workload”).

Eilam does not explicitly teach client accesses of files from a site are streaming media files or that the server is a media server.

Huckins teaches streaming media files and a media server (see col.1, lines 35-39 & lines 43-45).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the system of Eilam in view of Huckins so that client accesses of files from a site are streaming media files or that the server is a media server. One would be motivated to do so because Eilam teaches the present invention is applicable via the Internet (see page 1, [0001]) comprising a Server Farm (see page 1,

[0002]). Therefore, one of ordinary skill in the art would agree that multimedia server and streaming multimedia files are accessed via the Internet.

As per **claim 44**, Eilam teaches a system comprising:

a media profiler operable to receive workload information for a service provider's site and generate a workload profile for a server configuration under consideration for supporting the service provider's site (see page 2, [0021]: "optimization algorithm consolidating the workload forecast and the contract information" & [0032]: "Traffic and workload are monitored continuously and logged at a storage device"); and

a capacity planner operable to receive the generated workload profile for the server configuration under consideration and determine how many servers of said server configuration are needed to provide a media server solution having sufficient capacity for supporting the site's workload in compliance with defined performability parameters that specify a desired limit on degradation of quality of service provided by said media server solution during periods of degraded service (see page 3, [0036]: "The RM employs a Resource Control Algorithm (RCA) to make allocation decisions in real time according to the RAP and the alerts of the STFM; taking into account also the MLISLAs").

Eilam does not explicitly teach client accesses of files from a site are streaming media files or that the server is a media server.

Huckins teaches streaming media files and a media server (see col.1, lines 35-39 & lines 43-45).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the system of Eilam in view of Huckins so that client accesses of files from a site are streaming media files or that the server is a media server. One would be motivated to do so because Eilam teaches the present invention is applicable via the Internet (see page 1, [0001]) comprising a Server Farm (see page 1, [0002]). Therefore, one of ordinary skill in the art would agree that multimedia server and streaming multimedia files are accessed via the Internet.

DEPENDENT:

As per **claim 2**, which depends on claim 1, Eilam further teaches wherein said at least one service parameter comprises at least one performability parameter that defines a desired service characteristic to be provided by a media server configuration during periods of degraded service under the expected workload (see page 2, [0021]).

As per **claim 3**, which depends on claim 2, Eilam further teaches wherein said at least one performability parameter specifies a limit on the amount of degradation of service encountered during said periods of degraded service (see page 2, [0022]).

As per **claim 4**, which depends on claim 2, Eilam further teaches wherein said at least one performability parameter comprises at least one selected from the group consisting of: a regular-mode overload constraint that specifies a desired limit on the amount of degradation in service that is encountered during periods of performance degradation under regular system operation of a media server configuration, and a node-failure-mode overload constraint that specifies a desired limit on the amount of

degradation in service that is encountered during periods in which one or more nodes of a clustered media server configuration have failed (see page 2, [0021]).

As per **claim 5**, which depends on claim 2, Eilam further teaches wherein said at least one performability parameter comprises a regular-mode overload constraint that specifies a desired limit on the amount of degradation in service that is encountered during periods of performance degradation under regular system operation of a media server configuration, and a node-failure-mode overload constraint that specifies a desired limit on the amount of degradation in service that is encountered during periods in which one or more nodes of a clustered media server configuration have failed (see page 2, [0021]).

As per **claim 6**, which depends on claim 1, Eilam further teaches wherein said at least one service parameter comprises at least one basic capacity parameter (see page 2, [0025]).

As per **claim 7**, which depends on claim 6, Eilam further teaches wherein said at least one basic capacity parameter comprises at least one selected from the group consisting of: a statistical demand guarantee that specifies a desired limit on the percentage of time that a media server configuration is overloaded under the expected workload, and a utilization constraint that specifies a desired limit on the percentage of time that a media server configuration is at or near its capacity under the expected workload (see page 2, [0025]).

As per **claim 8**, which depends on claim 6, Eilam further teaches wherein said at least one basic capacity parameter comprises a statistical demand guarantee that

specifies a desired limit on the percentage of time that a media server configuration is overloaded under the expected workload, and a utilization constraint that specifies a desired limit on the percentage of time that a media server configuration is at or near its capacity under the expected workload (see page 2, [0025]).

As per **claim 9**, which depends on claim 6, Eilam further teaches wherein said at least one service parameter further comprises at least one performability parameter that defines a desired limit on the amount of degradation of service encountered during said percentage of time that a media server configuration is overloaded under the expected workload (see page 2, [0025]).

As per **claim 10**, which depends on claim 6, Eilam further teaches wherein said at least one service parameter further comprises at least one performability parameter that defines a desired limit on the amount of continuous overload encountered at any given time by a media server configuration under the expected workload (see page 2, [0025]).

As per **claim 12**, which depends on claim 11, Eilam further teaches wherein said non-compliant periods of operation comprise periods of degraded performance in servicing said expected workload (see col.2, [0021]).

As per **claim 13**, which depends on claim 12, Eilam further teaches wherein said degraded performance is performance in which said media server configuration is unable to satisfy real-time constraints of at least one stream being served (see col.2, [0021]).

As per **claim 14**, which depends on claim 12, Eilam further teaches wherein said degraded performance is performance in which said media server configuration is unable to serve at least one stream so as to avoid interruptions in the presentation of such stream (see page 2, [0022]).

As per **claim 15**, which depends on claim 12, Eilam further teaches wherein said degraded performance results from overload of said media server configuration (see page 2, [0022]).

As per **claim 16**, which depends on claim 11, Eilam further teaches wherein said non-compliant periods of operation comprise periods of at least one node failure of a clustered media server configuration (implicit: see page 2, [0025]).

As per **claim 17**, which depends on claim 11, Eilam teaches further comprising: receiving, into said capacity planning system, at least one basic capacity parameter that defines a desired service characteristic to be provided by a media server configuration during compliant periods of operation under the expected workload (see page 2, [0023]-[0028]).

As per **claim 18**, which depends on claim 17, Eilam further teaches wherein said compliant periods of operation comprise periods in which said media server configuration is not overloaded under the expected workload (see page 2, [0022]).

As per **claim 19**, which depends on claim 17, Eilam teaches further comprising: said capacity planning tool performing basic capacity planning to determine how many servers of said first server configuration to be included at said site for supporting the

expected workload in compliance with said at least one basic capacity parameter (see page 2-page 3, [0034]).

As per **claim 20**, which depends on claim 19, Eilam teaches further comprising: said capacity planning tool determining how many servers of said first server configuration to be included at said site for supporting the expected workload in compliance with said at least one basic capacity parameter and said at least one performability parameter (see page 2-page 3, [0034]).

As per **claim 21**, which depends on claim 11, Eilam further teaches wherein said at least one performability parameter comprises at least one selected from the group consisting of: a regular-mode overload constraint that specifies a desired limit on the amount of degradation in service that is encountered during periods of performance degradation under regular system operation of said media server configuration, and a node-failure-mode overload constraint that specifies a desired limit on the amount of degradation in service that is encountered during periods in which one or more nodes of a clustered media server configuration have failed (see page 2, [0021]).

As per **claims 23 and 38**, which respectively depend on claims 22 and 36, Eilam further teaches where each of said plurality of time intervals have a size I where $I < T$ (see page 3, [0035]).

As per **claims 24, 31, and 39**, which respectively depend on claims 22, 30, and 36, Eilam further teaches wherein beginning points of each of said plurality of time intervals are separated by a Step amount (see page 2, [0032]).

As per **claims 25, 32, and 40**, which respectively depend on claims 24, 31, and 39, Eilam further teaches wherein said Step < / (see page 3, [0035]).

As per **claim 26**, which depends on claim 24, Eilam and Suleiman do not explicitly teach wherein each of said intervals has duration of 1 hour and said Step is 1 minute.

However these differences are only found in the nonfunctional descriptive material and are not functionally involved in the steps recited. Continuous metric monitoring will be performed regardless of the data. Thus this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability, see *In re Gulack*, 703 F.2d 1381, 1385, 217 USPQ 401, 404 (Fed. Cir. 1983); *In re Lowry*, 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to allocate various intervals durations and Step minutes because such data does not functionally relate to the steps in the method claimed and because the subjective interpretation of the data does not patentably distinguish the claimed invention.

As per **claim 27**, which depends on claim 22, Eilam further teaches wherein said capacity planning tool receives at least one performability parameter that defines a desired limit on the amount of continuous overload encountered by a media server configuration under the expected workload (see page 3, [0034]).

As per **claim 28**, which depends on claim 27, Eilam further teaches wherein said capacity planning tool evaluates said amount of overload encountered by said at least

one media server configuration during each of said plurality of time intervals to determine whether said at least one media server configuration satisfies said at least one performability parameter (see page 3, [0035]).

As per **claim 29**, which depends on claim 27, Eilam further teaches wherein said at least one performability parameter comprises at least one selected from the group consisting of: a regular-mode overload constraint that specifies a desired limit on the amount of degradation in service that is encountered during periods of performance degradation under regular system operation of a media server configuration, and a node-failure-mode overload constraint that specifies a desired limit on the amount of degradation in service that is encountered during periods in which one or more nodes of a clustered media server configuration have failed (see page 2, [0021]).

As per **claim 33**, which depends on claim 30, Eilam further teaches wherein said defined service parameters include at least one performability parameter that defines a desired limit on the amount of continuous overload encountered by a media server configuration under the expected workload (see page 2, [0021]).

As per **claim 34**, which depends on claim 33, Eilam further teaches wherein said capacity planning tool evaluates said interval overload profile for said media server configuration under evaluation to determine whether said media server configuration under evaluation satisfies said at least one performability parameter (see page 2, [0034]).

As per **claim 35**, which depends on claim 33, Eilam further teaches wherein said at least one performability parameter comprises at least one selected from the group

consisting of: a regular-mode overload constraint that specifies a desired limit on the amount of degradation in service that is encountered during periods of performance degradation under regular system operation of a media server configuration, and a node-failure-mode overload constraint that specifies a desired limit on the amount of degradation in service that is encountered during periods in which one or more nodes of a clustered media server configuration have failed (see page 2, [0021]).

As per **claim 37**, which depends on claim 36, Eilam teaches further comprising: means for receiving information specifying duration of each of said time intervals (see page 2, [0032] and page 3, [0035]).

As per **claim 41**, which depends on claim 36, Eilam teaches further comprising: means for receiving at least one performability parameter that defines a desired limit on the amount of continuous overload encountered by said at least one media server configuration under evaluation under the expected workload (see page 2, [0021]).

As per **claim 42**, which depends on claim 41, Eilam teaches further comprising: means for evaluating the determined amount of overload encountered by said at least one media server configuration under evaluation for each of said plurality of time intervals to determine whether said at least one media server configuration under evaluation satisfies said at least one performability parameter (see page 2, [0022]).

As per **claim 43**, which depends on claim 41, Eilam further teaches wherein said at least one performability parameter comprises at least one selected from the group consisting of: a regular-mode overload constraint that specifies a desired limit on the amount of degradation in service that is encountered during periods of performance

degradation under regular system operation of said at least one media server configuration under evaluation, and a node-failure-mode overload constraint that specifies a desired limit on the amount of degradation in service that is encountered during periods in which one or more nodes of a clustered media server configuration under evaluation have failed (see page 2, [0021]).

As per **claim 45**, which depends on claim 44, Eilam further teaches wherein said periods of degraded service is periods in which said media server configuration is unable to serve at least one stream so as to avoid interruptions in the presentation of such stream (see page 2, [0022]).

As per **claim 46**, which depends on claim 44, Eilam further teaches wherein said defined performability parameters comprise at least one selected from the group consisting of: a regular-mode overload constraint that specifies a desired limit on the amount of degradation in service that is encountered during periods of degraded service under regular system operation of said media server solution, and a node-failure-mode overload constraint that specifies a desired limit on the amount of degradation in service that is encountered during periods in which one or more nodes of a clustered media server solution have failed (see page 2, [0021]).

Conclusion

4. For the reasons above, claims 1-46 have been rejected and remain pending.

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5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Y. Won whose telephone number is 571-272-3993. The examiner can normally be reached on M-Th: 7AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached on 571-272-4006. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael Won/

Primary Examiner

January 29, 2008